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Cyclical headwind putting pressure on ArcelorMittal's outlook

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A Project carried out on the Master in Finance Program, under the supervision of:

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Abstract of "Cyclical headwind putting pressure on ArcelorMittal's outlook"

This equity research report provides an analytical and fundamental valuation of the Luxembourg listed steelmaker ArcelorMittal. After reviewing the Company's historical financial and operational performance as well as conducting an in-depth industry analysis, we developed a forecast of ArcelorMittal's income statement, balance sheet and cash flow statement to obtain at stock target price as of 31.12.2020. The recommendation of this report is to sell the stock of ArcelorMittal due to calculated and derived negative total shareholder return of -3.9% within the next 12 months.

Keywords: ArcelorMittal, steel industry, metals and mining, valuation

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ARCELORMITTAL (MT)

COMPANY REPORT

INDUSTRIAL SECTOR

03 JANUARY 2020

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Increased Chinese steel output meets sluggish automotive sector – Pressurizing global steel prices

SELL RECOMMENDATION – Top line pressure through lower realized steel prices and tenuous demand in core markets in the light of ongoing global political turmoil

- **Chinese excess supply –** Chinese steel market cuts down its efforts to cut excess supply and announced further expansion projects in the context of weak domestic demand – Putting deflationary pressure on global steel prices (-12.1% until 2022 on Group level)
- **U.S.-China Trade wars –** Section 232 tariffs on Chinese steel imports increased domestic capacity – Catalyzing excess supply and therefore domestic steel price pressure (-8.8% until 2022 in NAFTA)
- **Weak automotive sector –** Sluggish automotive sector in key markets NAFTA and Europe worsens excess supply issue and decreases demand for flat products substantially (Steel demand to decrease 5.9% on Group level, 15.2% in Europe and 3.0% in NAFTA until 2022)
- **Net Debt target –** Announced Net Debt target of $7bn. not reached due to sluggish cash generation between 2019-2022; Deleveraging up to $8.5bn. achievable through asset sales until 2021. MT good on track announcing the divestment of its Global Chartering stake to DryLog

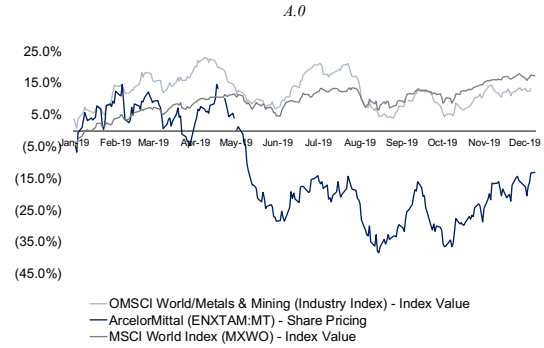
Company description

ArcelorMittal owns and operates steel manufacturing and mining facilities in Europe, Americas, Asia and Africa. The Company produces, finished and semi-finished steel products with various specifications and holds with 6% market share of the crude steel market which makes them the global steel market leader. The Luxembourg headquartered Company sells its products through a centralized organization to customers in 160 countries and employs more than 200,000 employees.

Recommendation:	**SELL**
Price Target FY20:	**15.6 €**
Price (as of 23-Dec-19)	**16.2 €**
Total Shareholder return	**-3.9%**

Source: CapitalIQ, Valuation model (rounded)

52-week range (€)	11.2 - 21.8
Market Cap (USDm)	18,064
Outstanding Shares (m)	1,020



Source: CapitalIQ

(Values in USDm)	2018	2019E	2020F
Revenues	76,033.0	69,886.1	65,525.1
EBITDA	10,265.0	5,519.0	5,004.5
EBIT	6,540.3	2,339.2	2,168.5
Net Profit	2,828.0	578.3	588.2
EPS	5.1	0.6	0.6
DPS	0.2	0.6	0.5
P/E	3.4x	30.4x	29.9x
Net Debt/EBITDA	1.2x	1.6x	1.8x
EV/Sales	0.4x	0.5x	0.5x
EV/EBITDA	2.9x	5.8x	6.4x
EV/EBIT	3.9x	13.8x	14.9x
OR Leverage	40.1%	40.3%	41.1%

Source: Annual report; Valuation model

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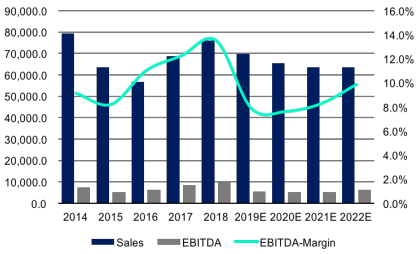
Company overview

A.1

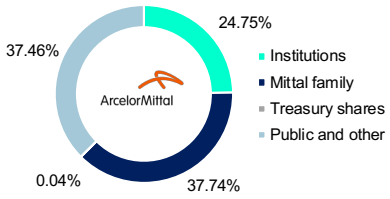


ArcelorMittal (MT) is a globally leading integrated steel and mining Company and resulted from the merger between Mittal Steel Company N.V. and Arcelor in 2007. The Company operates through the five segments: NAFTA, Europe, Brazil, ACIS and Mining. It has steel-producing operations in 19 countries corresponding to 48 steel-making facilities. This makes MT the largest steel producer in the Americas, Europe and Africa and the fifth largest in the CIS region.[1]

Since the merger in 2007, the Mittal family is the largest shareholder, owning 37.74% of the company's outstanding shares. The remainder is held by Institutions (24.75%) and Public owners (37.46%), while 0.04% correspond to Treasury shares.[2]

A.2

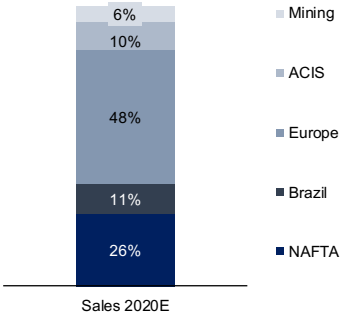
Shareholder structure



The Company produces a diverse range of finished and semi-finished products, specifically flat steel- (e.g. sheets and plates), long steel- (e.g. bars and rods) and tubular products for various use-cases. MT owns a diversified range of steel production facilities with both, basic oxygen furnaces and electric arc furnaces. In the latter, recycled steel scrap can be utilized for the production process while basic oxygen furnaces require iron ore and coking coal as main input factors. As of 2018, 12.0% of MT's steel was produced with electric furnaces. Therefore, iron ore and coking coal are still the most significant input materials for the Company.

In that context, MT is considered as integrated steelmaker, meaning that it also mines essential input factors for the steelmaking process like iron ore and coal. In that regard, 49.0% of the Company's iron-ore-, and 12.0% of its coal requirements are supplied by its own mines.

A.3



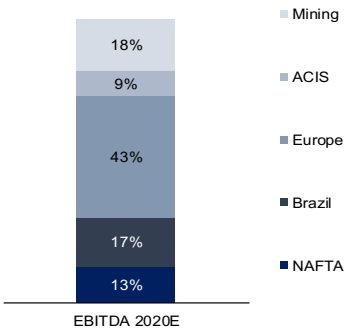
MT primarily sells its products in local markets and through its centralized marketing organization to a diverse set of end-customers mainly within the automotive-, construction-, engineering- and machinery industry. The Company additionally owns a downstream distribution business focused on providing value-added and individualized steel solutions to meet more specific customer requirements.

The strategic focus of the Company lies on the automotive steel business, having placed own engineers within the production process of an automotive client, supporting the production process of vehicles 5 years before the launch. Looking

[1] Please note that sources for numbers and percentages are based on MT's Annual reports and Fact books or the Valuation model unless otherwise stated; Please find sources for graphs in the Valuation model.
[2] S&P Capital IQ.

forward, MT recently launched the second generation of iCARe electrical steel which plays a substantial role in the production of electronic vehicles.

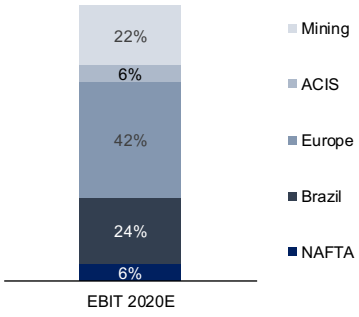
A.4



NAFTA

The NAFTA segment corresponds to all the flat-, long- and tubular facilities located in North America (Canada, United States and Mexico) and is the second largest of the Group contributing to 26.7% to Group Sales and to 24.1% of Group EBITDA.[3] The majority of produced products (87.0%) are flat, e.g. hot-rolled coil, cold-rolled coil or coated steel. These products are predominantly distributed to customers within the automotive-, energy- or construction sector. Besides that, NAFTA also produces long products like wire rod, rebar, billets but also tubular products, together contributing to 13.0% of segment Sales. Note, that the NAFTA steel operations are less reliant on iron ore and coking coal as input factors as it utilizes a large degree of recycled scrap as input material for steel production.

A.5

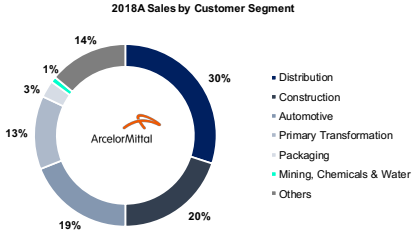


Europe

The Europe segment is the largest one on Group level, corresponding to 53.3% of Group Sales and 37.1% of Group EBITDA. Moreover, it is the largest steel producer in Europe, covering the whole flat steel product portfolio in all major European markets.

The majority of products (70.0%) are flat (e.g. hot-rolled coil, cold-rolled coil or coated steel) primarily distributed to end-customers in the automotive- and packaging industry. Europe also produces long products (e.g. wire rod, rebar, billets) and tubular products (together 30.0% of segment Sales). Additionally, the segment comprises downstream solutions, mainly an in-house trading and distribution arm of MT. It further provides value-added steel solutions by offering additional steel processing to meet specific customer requirements.

A.6

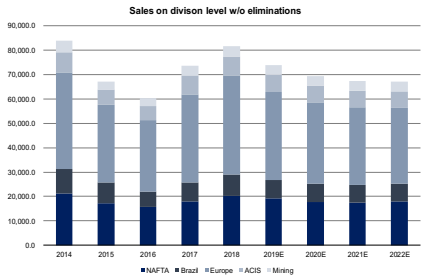


Brazil

This segment corresponds to the flat steel operations in Brazil, as well as the long and tubular operations in Brazil and adjacent countries including Argentina, Costa Rica and Venezuela. The segment contributes to 11.5% of Group Sales and 15.0% of Group EBITDA. The product portfolio of the Brazil segment is similar to NAFTA and Europe including the full product portfolio within flat-, long- and tubular products.

[3] Stated Sales- and EBITDA-contributions in section „Company Overview" as of 2018.

A.7



ACIS

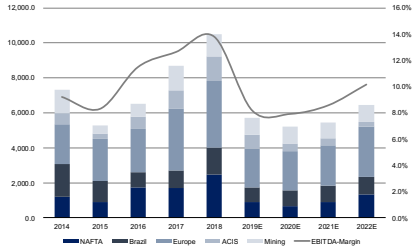
The ACIS segment includes production facilities for flat-, long- and tubular products located in South Africa and the Commonwealth of Independent States. It contributes to 10.5% of Group Sales and 13.7% of Group EBITDA.

Mining

The Mining segment incorporates all mines owned by MT in the Americas, Asia, Europe and Africa. It provides the company with low-cost iron ore and coal reserves for its steel operations and hedges MT to a certain point against raw material volatility and global supply constraints. Currently MT operates 12 iron ore and 2 coal mines worldwide. As of 2018, 49% of its iron ore requirements and 12% of its coking coal requirements were supplied by own mines. Additionally, a certain amount of mineral products is sold to third parties, contributing to 5.5% of Group Sales and 12.5% to Group EBITDA.

Strategy outlook

A.8



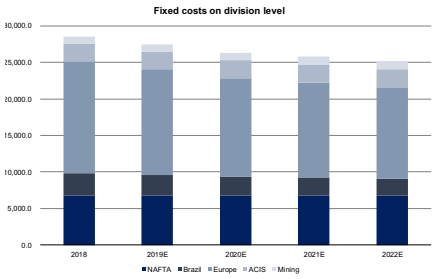
Sustainable development

In distinction to other industries, in which carbon dioxide (CO2) is mainly emitted through energy usage, the steel production process itself creates a substantial amount of CO2. Therefore, MT places a large focus on the reduction of CO2 emissions along the steel- and mining production process. In this context, the Company focuses on three areas to achieve that transformation.

Firstly, product innovation. Besides innovative products for the automotive industry, MT recently launched its Steligence concept for the use of steel in construction, making the construction process more sustainable and improving the life-cycle of buildings.

Secondly, MT wants to improve its contribution to a low-carbon circular economy. Therefore, MT announced its goal back in 2007 to reduce CO2 emission by 8% until 2020. A crucial part of this strategy is the increased utilization of recycled steel scrap in electronic furnaces and to further invest in technologies to sustainably decrease the carbon intensity of the steel making process. This initiative also includes the recent partnership with LanzaTech, which developed a method to convert carbon-containing gas into bioethanol. MT showcases this part of their strategy by using a significant degree of recycled materials for building its new headquarter in Luxembourg.

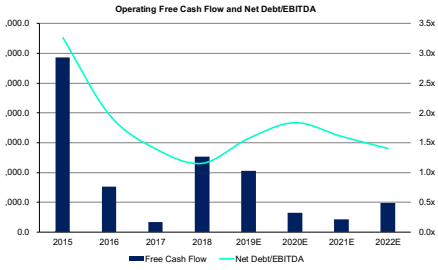
A.9



Thirdly, MT currently develops a credible social and environmental certification scheme for both, steel and mining operations in order to provide reassurance to end-customers.

Within our short-term forecast period (2019-2022) we assume that the steel industry will suffer from various disruptions, to a significant extent caused by socioeconomic and environmental change. Consequently, MT's Sales are expected to decline at a CAGR of 4.4% within that period.[4] Beyond that time horizon we think the Company will slowly recover from these disruptions at a CAGR of 1.1% between 2023-2026 on Group level. In that context, we incorporate the efforts and investments the Company makes for sustainable development as prerequisite to cope with these disruptions and achieve a recovery of 1.1% p.a. Note however, that we do not evaluate these efforts as competitive advantage in the short-term as comparable steelmakers are engaging in similar investments, as these are necessary to remain successful in the market. Put differently, in the absence of these commitments we would not assume any recovery on the demand side for MT.

A.10

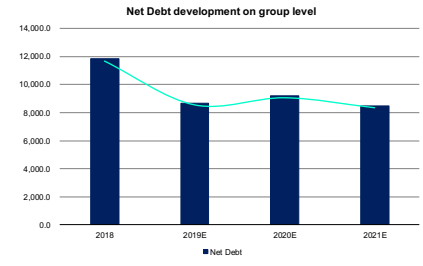


Improving Organizational Efficiency

In order to decrease the degree of operational leverage, the Company has announced efforts to further improve its organizational structure. In 2018, the multi-year acquisition of Vorantim in Brazil was concluded. Consequently, MT consolidated its organizational structure for the Brazil operations, resulting in a large degree of economies of scales. Moreover, MT announced efforts to create a leaner organizational structure in the Europe operations, adjusting for demand disruptions in the upcoming years.

As a result, we let fixed costs on Group level decline with 3.1% p.a. until 2022, predominantly stemming from the Europe segment (-5.0% p.a.) and the Brazil segment (-6.9% p.a.).[5]

A.11



Strengthening the Balance Sheet

Besides past investments in Working Capital and lower M&A spend, the Balance sheet focus looking forward lies on deleveraging up to the announced target Net Debt level of $7 bn. in 2019.[6] However, we do not think that MT will be able to meet its target of such a substantial deleveraging for several reasons. First, the operating performance declines significantly in the short-term forecast period, as Sales are down by 4.4% p.a until 2022 and EBITDA even more so by 11.6% p.a.

[4] Please note that CAGR within short-term forecast period refers to reported 2018 value as starting point and 2022 as ending point.
[5] Percentage decline based on fixed costs synergy estimation by Management.
[6] Please note that the initial Net Debt target was $6bn. but increased to $7bn. resulting from the introduction of IFRS 16.

Moreover, the Company has to bear committed Capex in the context of the failed Ilva acquisition and several expansion projects in Brazil and Mexico. Consequently, we do not think MT's cash generation will be sufficient to meet its declared target.

The combination of significant disruptions in the upcoming years paired with a large committed Capex spend between 2019-2022, leads to our assumptions that MT cannot deleverage organically with own cash generation but rather through asset sales. Under that assumption, the amount of deleveraging is limited and we therefore think the target Net Debt level will be hit in 2021 and will sit at $8.5bn. instead of the announced $7bn, corresponding to an industry competitive Net Debt to Equity Ratio of 0.47 (Competitors' mean: 0.5).[7]

Further inorganic growth with improved capital allocation

Looking forward, MT plans to continue its strategy of inorganic growth. However, in times of several disruptions in the industry, the Company will be more selective in its capital allocation in the upcoming years, primarily investing in high return projects.

Short-term acquisitions therefore target developing markets like Mexico and Brazil, as these are not that dependent on the automotive industry as end-customers but rather generate demand from the construction sector.

Recent acquisitions include the $1bn. investment in a new hot strip mill in Mexico (expected completion in 2020) and $0.3bn. Capex spend for a value-added capacity expansion project in Vega do Sul, Brazil.[8]

We base our Capex estimation between 2019-2022 on the announced investment plan by MT's management.

Moreover, we think the focus on developing markets is an appropriate way to cope with disruptions in other segments. We therefore think that the NAFTA segment will recover in 2022, as soon as the projects in Mexico hit the top line. Additionally, Brazil is (together with ACIS) the only segment, in which steel shipments are assumed to grow with a positive CAGR between 2019-2022 (+1.7%).

[7] We assume $1.2bn. Assets held for Sale are entirely divested in 2021; For forecasting purposed we let Net Debt. positions (Excess cash and newly issued Debt) close the Balance sheet beyond 2021, making it vary from $8.5bn. – Not that this does not affect our target price.
[8] ArcelorMittal. (2019). *2018 Financial results and Strategic update.*

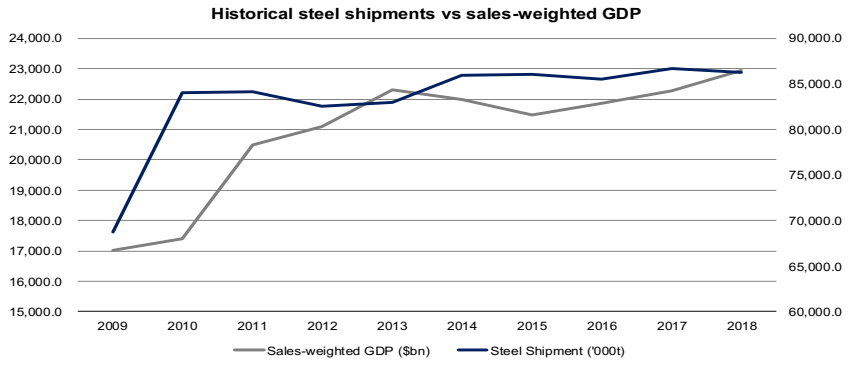
Operating model

Methodology

The operating performance of the steel industry is generally highly driven by economic performance and the associated economic cycles as well as the degree of economic development of a country. This stems from the fact that end-products are predominantly distributed to industries like automotive and construction, sectors in which GDP is the main driver of performance. Moreover, as both input factors and the end-product are commodities, prices behave in commodity super cycles over the long-run.[9]

In the short-term however the steel industry is very volatile, which stems from its large exposure to general macroeconomic and political conditions. In order to capture both, short-term volatilities as well as long-term trends and cycles we split the forecast period into a detailed short-term forecast of the years 2019-2022 and a long-term forecast thereafter.

A.12



Group level summary

On the demand side, the upcoming years will be characterized by a weak automotive industry in the key segments NAFTA and Europe and political uncertainties. Until 2022, we expect steel demand to decline by 0.8% p.a in NAFTA, resulting from ongoing uncertainties on the outcome of the trade conflicts with China. In Europe steel demand will even decrease by 4.0% p.a, as the European automotive market is facing more turmoil in regards to the Diesel affair in Germany and future environmental regulations.[10] The decline in steel demand is accompanied by an increase in excess steel supply. China recently dissolved its commitment to cut excess supply and announced further capacity expansion instead. At the same time expansion projects in the U.S. which

[9] Medium.com. (2019). *Decoding the Commodity Super Cycle.* [Online] Available at: https://medium.com/technicity/decoding-the-commodity-super-cycle-1e17f34486b9 [Accessed 12 Dec. 2019].
[10] Exact percentages of demand movements are based on CIQ-Estimates and Broker consensus adjusted by [-2pp.;+2pp] according to our understanding of the steel market between 2019-2022.

resulted from the introduction of the Section 232 tariff in 2017, will materialize and start operations soon. The increasing global excess capacity will put global steel prices under pressure, which is catalyzed by declining iron ore prices. As we do not see any government commitments to exonerate domestic steel prices, we think MT's average realized steel price on Group level will in total decline by 12.1% until 2022 with no sustainable recovery in sight.[11] In estimating these values we employed MT's realized steel price during the last excess supply crisis in 2015 as benchmark for 2022 and adjusted it upwards by c.5% to account for increased governmental and regulatory awareness of the issue.[12] We let realized prices converge to that benchmark accounting for different extents to which MT's segments are affected by excess supply.

Overall, Group level Sales are expected to decline with a CAGR of -4.4% over the short-term forecast period.

The pressure on the top-line is partly relieved by a decline in total cash costs of 3.9% annually until 2022. Iron ore prices are bound to reach the peak of the price cycle in 2019. Moreover, economies with cheap access to iron ore like China and Brazil will inflate supply and even catalyze the decline in global iron ore prices, which we assume to go down by 7.2% annually. Lower iron ore prices are accompanied by a flexible cost structure on Group level. Within a labor-intensive environment, MT has been able to cope with historical shocks in the steel industry by laying off temporary workforce. We therefore assume other variable costs to decrease by 3.7% annually. Coking coal prices however reach the trough of the price cycle in 2019 and experience sustained demand from China and India. We therefore expect coking coal prices on Group level to increase by 3.3% annually. Finally, as already touched upon, MT announced several initiatives and projects, aiming to adjust to the sustainably lower steel demand predominantly in Europe. Fixed costs on Group level are hence assumed to decline by 3.1% annually. MT's EBITDA margin will go down from 12.3% in 2018 to 7.9% in 2019. Low iron ore prices, MTs flexible cost structure and organizational cost cutting measures however will result in a EBITDA-margin expansion up to 9.9% in 2022.

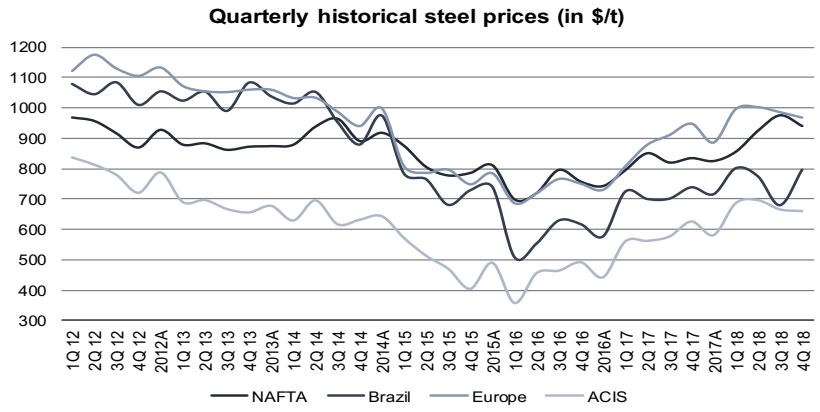
Long-term forecast

Based on historical patterns, we assume that steel demand will develop in line with regional GDP growth. Our estimates for steel shipments upon 2022 are therefore based on a Sales-weighted average GDP growth per respective segment. This assumption implicitly states that MT will eventually recover from

[11] Please find a deep dive into segment specific assumptions under Section "Revenue model".
[12] Please find more information on the 2015 crisis and its impact on the steel market in the individual report of Fabian Feichtinger (33834).

industry specific disruptions occurring between 2019-2022 and will grow in line with the economy again. We think this will hold true as MT is investing significant amounts in the sustainability of their production process, which will enable them to cope with environmental change in the long-term and assume GDP growth again. As steel, iron ore and coking coal are commodities, prices follow commodity cycles in the long-run, with an average duration of approximately five years. We therefore model both realized steel- and mining prices on a 5-year rolling average basis. Note however that this approach is only utilized for iron ore and coking coal prices realized for Sales purposes in the Mining business. Forecasting the effective long-term prices of iron ore and coal MT pays for them as input factors in its steel operations is challenging for two reasons. Firstly, MT announced several projects aimed at increasing the degree of input factors supplied by own mines. This is accompanied by a rising focus on recycled scrap as material to cope with environmental standards. Secondly, MT negotiated several long-term strategic contracts with its suppliers for which no prices are disclosed. Hence, we forecast EBITDA/t beyond 2022 as 9-year rolling average of historical values and arrive at iron ore-, coking coal- and other variable costs by applying historical splits (e.g. as % of total variable costs). Fixed costs are assumed to be constant, as cost cutting projects are expected to be finished beyond 2022.

A.13



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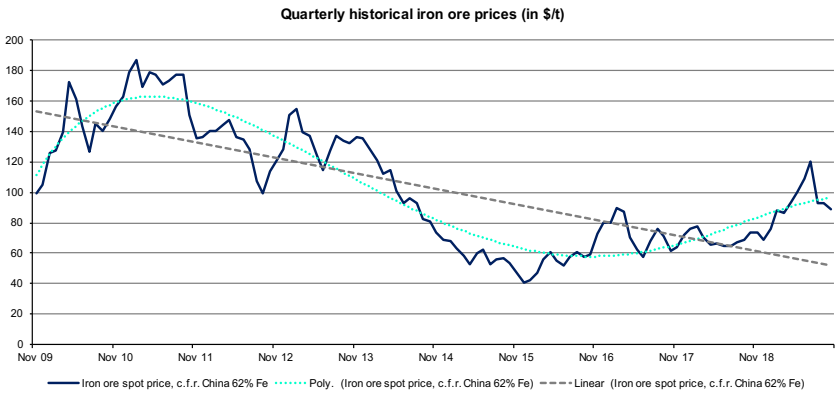

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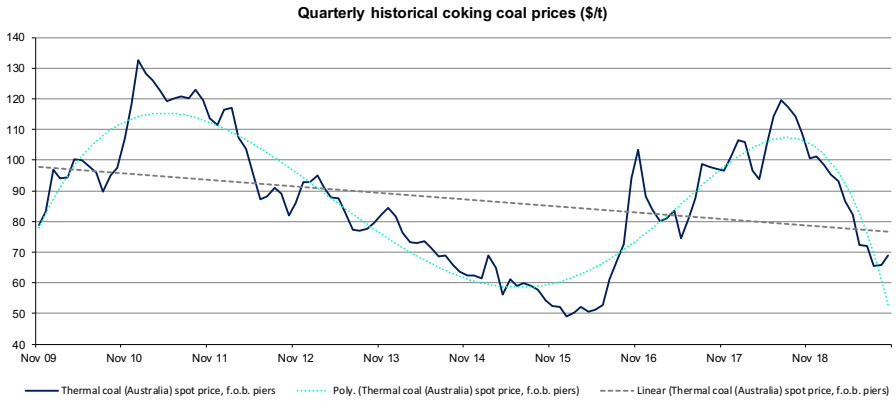

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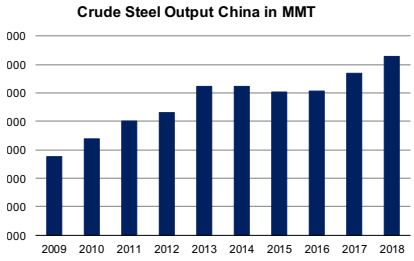


Chinese excess supply

After the positive impact of the resolution of the illegal production capacity affair in 2016 and 2017, resulting in less excess steel supply and hence less steel price pressure, the Chinese production levels continued to grow at 6.6% in 2018.[13] Moreover, we do not believe that the production levels will slow down in the short-term outlook, as the Chinese government recently announced its "Iron ore and steel capacity replacement campaign" including the construction of new blast furnaces and converters contributing to an increase in capacity of 93 million mt/year.[14] Furthermore, China officially announced to cut down its effort to reduce excess supply by dissolving the Global forum on Steel Excess Supply, an initiative launched by the G20 countries to globally reduce steel output.[15]

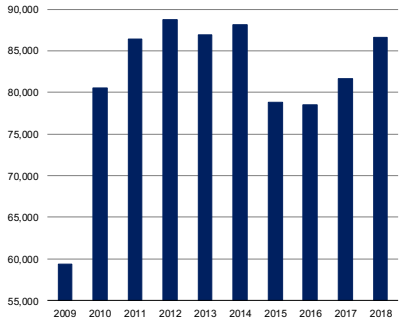
The continuous increase in the Chinese steel production will even worsen the issue of excess supply in the short-term outlook. In the light of a slowing domestic steel demand, mainly caused by the US-trade conflict and a weak automotive industry, it is likely that the Chinese economy will significantly increase its steel exports, having a deflationary effect on global steel prices. Cheap export prices from China are therefore the main driver of a declining average realized steel price of 3.2% p.a. on Group level.

[13] World Steel Association. (2019). Steel Statistical Yearbook (Concise Version).
[14] Hellenicshippingnews.com. (2019). *China to commission 93 million mt/year of new steel capacity in 2020* I Hellenic Shipping News Worldwide. [Online] Available at: https://www.hellenicshippingnews.com/china-to-commission-93-million-mt-year-of-new-steel-capacity-in-2020/ [Accessed 14 Dec. 2019].
[15] South China Morning Post. (2019). *Global steel forum scrapped as China says it had done more than its share.* [Online] Available at: https://www.scmp.com/economy/china-economy/article/3034753/global-steel-forum-scrapped-china-says-it-has-done-more-its [Accessed 14 Dec. 2019].

Revenue model

NAFTA

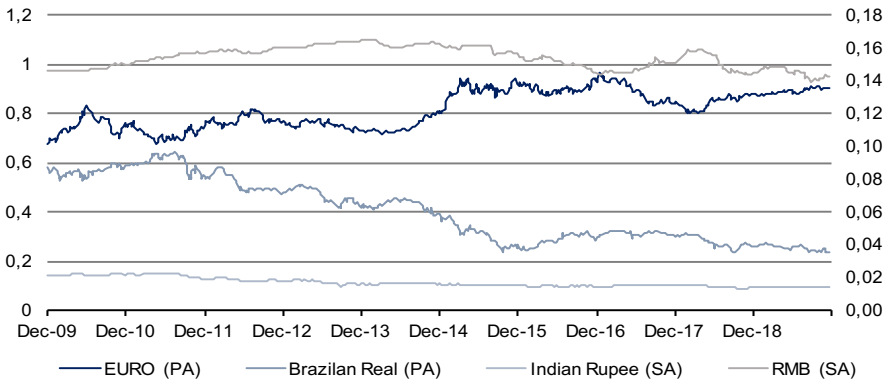
A.17
Crude Steel Output USA in MMT



Steel demand - Current steel demand in the U.S. is severely suffering from the ongoing ambiguity in the trade conflict with China as well as from the weak domestic automotive industry. We do not see either of these conditions to improve within the short-term outlook. First, as the U.S. is just entering election period, it is not likely that a resolution to the trade conflicts will be developed anytime soon. Additionally, the automotive industry will further suffer from developments in demographics and climate change, translating in an estimated CAGR of -3.0% over 2018-2026.[16] We therefore estimate steel demand to decline with that rate in 2019. However, we think the announced investments in Mexico will yield high returns and start hitting top-line in 2020, fully materializing in 2021. We therefore assume demand will only decrease by -1.0% in 2020 and 2021 and will even recovery slightly with 2.0% in 2022.

Realized steel price - After President Trump imposed the Section 232 tariffs on steel and aluminum, (25% on steel, 10% on aluminum), U.S. steelmakers were forced to reinstall some closed production facilities or even invest in new plants. The increased crude capacity of these investments will materialize within the short-term forecast period. We hence believe that U.S. steel prices will be exposed to some serious deflationary pressure in the upcoming years. First, these investments will increasingly widen the gap between supply and demand. Furthermore, cheap export prices primarily from the Chinese economy will

A.18
USD exchange rates (10Y)



decrease domestic prices even further. Lastly, the historical exchange rate development, with the dollar appreciating against other major currencies makes it even harder to realize a stable or even growing steel price. We think deflationary

[16] Wall, M. (2019). Automotive Industry Outlook: Managing Volatility and Leveraging Opportunities in a Dynamic Market Environment. *IHS Markit.*

export prices and domestic excess supply result in price decreases of 3.0% in 2019, 6.0% in 2020 and 1.0% in 2021. Steel prices will recover in 2022 by 1.0% again, as steel demand is likely to recover and converge to production levels.

Europe

Steel demand - The general German economy, a key market for MT, is facing severe pressure predominantly from weak export conditions caused by the US-China trade wars and a declining domestic automotive industry, which is not expected to recover in the near-term, especially due to the negative perception of Diesel cars but also from the announcement of Germany's 2030 climate package.

As the Europe segment is even more dependent on the automotive sector as NAFTA, we think European steel demand will suffer significantly more in the short-term forecast period with growth rates of -7.0% (2019), -5.0% (2020), -3.0% (2021) and -1.0% (2022). However, MTs partnerships with relevant OEMs and its R&D investments will enable them to accommodate the disruptions in the long-run, slightly recovering from 2023 onwards.

Realized steel price – In order to adjust for sustainably lower demand, European steel producers cut down their production capacity. As a result, steel imports in Europe continued to rise at cheap import prices primarily from the Chinese steel market. This imported deflation will put pressure on realized steel prices for the European segment. Moreover, further industry consolidation which may strengthen the pricing power of European steelmakers cannot be expected in the future, especially as the European Commission is likely to abandon the potential merger between Thyssenkrupp and Tata steel.[17] We therefore expect realized steel prices to decline steadily with rates of -4.0% (2019), -3.0% (2020), -2.0% (2021) and -1.0% in 2022.

Brazil

Steel demand - As a result of political tensions (e.g. delayed pension reforms) in Brazil and in adjacent countries like Venezuela and Chile, domestic steel demand is assumed to suffer accordingly in 2019 decreasing by 4.0%. However, we assume that steel demand will recover in the upcoming years. The segment is not as dependent on the struggling automotive sector compared to NAFTA and Europe, but as developing region rather sources demand from construction companies. These characteristics lead us to believe prices will recover with rates of 6.0% (2020), 3.0% (2021) and 2.0% (2022).

[17] Ft.com. (2019). *Brussels blocks Thyssenkrupp and Tata Steel merger* I Financial times. [Online] Available at: https://www.ft.com/content/5f0feae0-8c3f-11e9-a24d-b42f641eca37 its [Accessed 14 Dec. 2019].

Realized steel price – As the general steel demand of the segment is smaller in absolute terms compared to NAFTA and Europe, it is even more exposed to weak export conditions caused by the excess supply in China. Additionally, the BRL is a comparably weak currency, putting even more pressure on the realized price in the segment. We therefore think that the Brazil segment is affected the most by global steel price tensions, with prices declining at 9.0% (2019), 7.0% (2020), 4.0% (2021) and 3.0% in 2022.

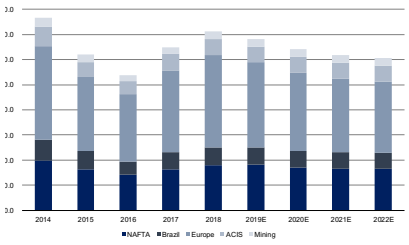
ACIS

Steel demand – The steel demand within the ACIS segment will suffer from political tensions predominantly in Ukraine in 2019. We therefore expect steel demand to decline by 4.0% in 2019. However, we think the administration of President Ramaphosa in the key market South Africa and his commitment to conduct investments in the energy infrastructure leads us to assume that steel demand will recover beyond 2019 with growth rates of 3.0% (2020), 3.0% (2021) and 1.0% (2022).[18]

Realized steel price – The ACIS segment is generally very dependent on export markets. Key countries like Kazakhstan and Ukraine are very dependent on Turkey and Middle East as export countries, both of which facing severe domestic demand and price pressure. We therefore think that the segment will be significantly exposed low global export prices and realized prices will decline by 8.0% (2019), 6.0% (2020), 3.0% (2021) and 1.0% (2022).

Cost model

A.19



Variable costs

Iron ore prices will experience a peak in 2019 and will decline according to the commodity super cycle thereafter. Moreover, a substantial amount of iron ore demand stems from Europe, in which production capacity will be shut down as a result of weaker demand. China, as the largest capacity expanding market however enjoys cheap access to iron ore domestically, pushing global iron ore prices down. We therefore think iron ore prices will decline gradually from a current price of $99.5/t on Group level to an average of $74/t, which lies within 10.0% of the through of the last price cycle.[19] Quite on the opposite, key expanding markets like China and India do not have similar sourcing abilities for coking coal and will therefore provide sustained demand in the upcoming years.

[18] Reuters.com. (2019). *South Africa's Ramaphosa gets $13.5bn. of investment pledges at summit.* [Online] Available at: https://www.reuters.com/article/safrica-economy/south-africas-ramaphosa-gets-13-5-bln-of-investment-pledges-at-summit-idUSL8N27M2FN [Accessed 16 Dec. 2019].

[19] We took the trough of the last cycle as iron ore price benchmark, adjusted it upwards for current demand and supply dynamics and let iron ore prices gradually converge to that value until 2022.

As the bottom price of the super cycle will be reached in 2019 at an average of $114/t., we let the average price gradually converge to the peak of 2010 of $130/t. in 2022.

Historically MT has adopted a very flexible labor cost structure employing a large portion of temporary workers which will be laid off in case of top-line downturns. Following this flexibility, we assume other variable costs will deteriorate approximately in line with Sales (3.7% p.a.) until 2022.

Fixed costs

MTs Management has announced to suspend production in several plants, predominantly in Europe in order to adjust for lower steel demand. The most recent announced included a temporary production suspension at its Romanian steel plant Hunedoara.[20] Moreover, synergies of the announced project in Brazil will start materializing. Based on Management announcements of synergies and fixed costs we assume fixed costs will gradually decline at 3.1% annually, with 83.9% of cost reductions from the European segment.

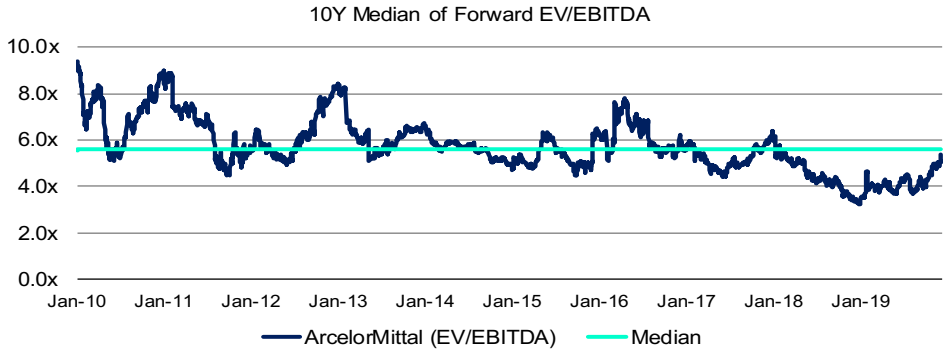
Valuation

Methodology

Our target share price (TP) of €15.6 consists to 50% of an intrinsic DCF Valuation with an implied share price of €16.7 and to 50% of a relative valuation yielding an implied share price of €14.4.[21]

Our relative valuation method is consisting on an equal-weighted Sum-of-the-Part EV/EBITDA 2020E valuation as well as on ArcelorMittal's 10-year Forward EV/EBITDA multiple of 5.6x. This corresponds to a TSR of 3.9% and results in a sell-recommendation of MT's stock.

A.20



[20] Romania-insider.com. (2019). *ArcelorMittal suspends production at Romanian unit due to high energy prices.* [Online] Available at: https://www.romania-insider.com/arcelor-temp-suspends-ro-production-dec-2019 [Accessed 16 Dec. 2019].
[21] Note that MT reports its financials in USD but is listed in EUR – We therefore apply the Exchange rate of 0.90 USD/EUR as of 21.12.19 to our TP in USD.

A.21

ArcelorMittal - Divisional Overview									
USDm	**2014**	**2015**	**2016**	**2017**	**2018**	**2019E**	**2020E**	**2021E**	**2022E**
Sales	**79,282.0**	**63,578.0**	**56,791.0**	**68,678.7**	**76,033.0**	**69,886.1**	**65,525.1**	**63,584.4**	**63,444.7**
NAFTA	21,162.0	17,293.0	15,806.0	17,997.0	20,332.0	19,130.4	17,802.7	17,448.5	17,975.4
Brazil	10,037.0	8,503.0	6,223.0	7,755.0	8,711.0	7,610.3	7,502.3	7,418.2	7,339.7
Europe	39,552.0	31,893.0	29,272.0	36,208.0	40,488.0	36,147.7	33,310.1	31,664.6	31,034.4
ACIS	8,268.0	6,128.0	5,885.0	7,621.0	7,961.0	7,031.2	6,807.6	6,801.4	6,800.8
Mining	4,970.0	3,387.0	3,114.0	4,033.0	4,211.0	4,034.0	3,916.1	3,952.4	3,986.9
Other & elimination	(4,707.0)	(3,626.0)	(3,509.0)	(4,935.3)	(5,670.0)	(4,067.4)	(3,813.6)	(3,700.7)	(3,692.5)
EBITDA	**7,245.1**	**5,227.9**	**6,254.4**	**8,408.6**	**10,265.0**	**5,519.0**	**5,004.5**	**5,273.6**	**6,264.2**
NAFTA	1,215.0	891.0	1,719.5	1,703.4	2,472.0	889.1	681.5	902.0	1,341.0
Brazil	1,845.1	1,227.9	871.0	990.2	1,538.0	848.4	880.2	920.8	1,003.6
Europe	2,304.0	2,393.0	2,502.6	3,559.6	3,809.0	2,191.9	2,233.1	2,318.0	2,873.4
ACIS	620.0	317.0	677.8	1,026.6	1,405.0	822.3	459.7	394.2	269.0
Mining	1,331.0	462.0	762.2	1,407.3	1,278.0	977.0	946.5	929.4	967.6
Other & elimination	(70.0)	(63.0)	(278.6)	(278.6)	(237.0)	(209.7)	(196.6)	(190.8)	(190.3)
EBIT	**3,034.1**	**(4,164.1)**	**4,159.4**	**5,435.2**	**6,540.3**	**2,339.2**	**2,168.5**	**2,378.0**	**3,313.7**
NAFTA	386.0	(705.0)	2,002.1	1,185.4	1,890.0	370.4	152.4	361.8	790.5
Brazil	1,388.1	624.9	613.0	697.1	1,356.0	552.3	578.1	612.3	689.3
Europe	737.0	171.0	1,269.3	2,358.5	1,631.0	604.6	1,021.8	1,081.2	1,613.1
ACIS	95.0	(624.0)	210.5	508.1	1,094.0	513.3	144.5	72.3	(59.0)
Mining	565.0	(3,522.0)	366.4	990.9	860.0	561.7	522.8	496.7	526.8
Other & elimination	(137.0)	(109.0)	(301.9)	(304.9)	(290.7)	(263.0)	(251.0)	(246.3)	(247.0)
Steel Shipments ('000t)	**85,125.0**	**84,586.0**	**83,934.0**	**85,241.0**	**83,854.0**	**80,222.1**	**79,112.1**	**78,502.6**	**78,930.2**
NAFTA	23,074.0	21,306.0	21,281.0	21,834.0	22,047.0	21,385.6	21,171.7	20,960.0	21,379.2
Brazil	10,376.0	11,540.0	10,753.0	10,840.0	11,464.0	11,006.0	11,666.4	12,016.4	12,256.8
Europe	39,639.0	40,676.0	40,247.0	40,941.0	41,020.0	38,148.6	36,241.2	35,153.9	34,802.4
ACIS	12,833.0	12,485.0	13,271.0	13,094.0	11,741.0	11,271.4	11,609.5	11,957.8	12,077.4
Inter-segment elimination	(797.0)	(1,421.0)	(1,618.0)	(1,468.0)	(2,418.0)	(1,589.5)	(1,576.7)	(1,585.4)	(1,585.6)
Mining shipments ('000t)									
Iron ore	63,900.0	62,800.0	55,200.0	57,400.0	58,500.0	57,330.0	56,183.4	55,621.6	55,065.4
Coal	7,000.0	6,100.0	6,300.0	6,300.0	5,900.0	6,018.0	6,138.4	6,199.7	6,261.7
Steel prices (USD/t)	**873.0**	**711.6**	**639.5**	**758.4**	**856.5**	**820.9**	**778.8**	**759.6**	**753.3**
NAFTA	917.1	811.6	742.7	824.3	922.2	894.5	840.9	832.5	840.8
Brazil	967.3	736.8	578.7	715.4	759.9	691.5	643.1	617.3	598.8
Europe	997.8	784.1	727.3	884.4	987.0	947.5	919.1	900.7	891.7
ACIS	644.3	490.8	443.4	582.0	678.1	623.8	586.4	568.8	563.1
Mining prices (USD/t)	**70.1**	**49.2**	**50.6**	**63.3**	**65.4**	**63.7**	**62.8**	**63.9**	**65.0**
EBITDA (USD/t)	**69.5**	**56.3**	**65.4**	**82.1**	**107.2**	**56.6**	**51.3**	**55.3**	**67.1**
NAFTA	52.7	41.8	80.8	78.0	112.1	41.6	32.2	43.0	62.7
Brazil	177.8	106.4	81.0	91.3	134.2	77.1	75.4	76.6	81.9
Europe	58.1	58.8	62.2	86.9	92.9	57.5	61.6	65.9	82.6
ACIS	48.3	25.4	51.1	78.4	119.7	73.0	39.6	33.0	22.3
Mining	**18.8**	**6.7**	**12.4**	**22.1**	**19.8**	**15.4**	**15.2**	**15.0**	**15.8**

The steel industry is highly cyclical and will be characterized by substantial political, socioeconomic and industrial disruptions in the upcoming years. Capturing all of these aspects within our DCF assumptions is challenging. We therefore employ a hybrid model for deriving our TP in order incorporate the market sentiment of such uncertainties within the TP.[22]

For the intrinsic valuation, we employed a DCF approach, mainly because MT's management announced its policy of a target capital structure. Although we do

[22] Please find a detailed elaboration on the relative valuation in the individual part of Tobias Habert (33906).

not think that the targeted $7bn. Net Debt will be achieved, we assume that MT will operate with a target Net Debt of $8.5bn. which corresponds to a target Net Debt to Equity ratio of 0.47 achieved as of 2021, which is more in line with the mean of MT's competitors of 0.5. As this capital structure will be reached in 2021, we apply a different WACC in 2020 accounting for the difference in the financial profile.

We performed a sensitivity analysis with respect to the WACC and the percentage share of the TP stemming from the DCF approach.[23]

A.22

WACC \ Share of DCF Target Price	30.0%	40.0%	50.0%	60.0%	70.0%
8.1%	18.2	19.5	20.8	22.0	23.3
9.7%	15.9	16.4	16.9	17.4	17.9
10.5%	15.1	15.4	**15.6**	15.8	16.1
13.3%	13.2	12.8	12.4	12.0	11.6
14.5%	12.7	12.1	11.5	10.9	10.4

Based on that, our TP of €15.6 bears a TSR downside of 33.5% not accounting for alternative scenarios. Moreover, the market based relative valuation supports our sell recommendation as the TP decreases (at our WACC of 10.49%) with the DCF share.

ArcelorMittal - Multiple valuation A.23

USDm	2019e	2020e	2021e
EBITDA	5,519.0	5,004.5	5,273.6
Historical EBITDA multiple (median)	5.6x	5.6x	5.6x
Enterprise Value	**30,901.9**	**28,021.0**	**29,527.7**
Total interest bearing debt	12,483.0	12,483.0	12,483.0
Pension obligations	4,844.0	4,844.0	4,844.0
Accrued interest	976.0	976.0	976.0
Non-controlling interest	2,022.0	2,022.0	2,022.0
Equity method investments	(4,750.0)	(4,750.0)	(4,750.0)
Excess cash	(3,299.2)	(3,299.2)	(3,299.2)
Implied Equity Value	**18,626.1**	**15,745.2**	**17,251.9**
NOSH	1,020.0	1,020.0	1,020.0
Implied Share Price	**18.3**	**15.4**	**16.9**

[23] Please note that our TP is not sensitive to long-term growth due to a late TV-entrance – Hence it is not accounted for in the sensitivity analysis.

A.24

ArcelorMittal - Sum of the Part valuation

USDm	EV/EBITDA		EBITDA		Implied EV	
	2019e	2020e	2019e	2020e	2019e	2020e
NAFTA	6.7x	7.8x	889.1	681.5	5,919.1	5,336.2
Brazil	7.4x	6.7x	848.4	880.2	6,247.2	5,882.4
Europe	6.6x	5.3x	2,191.9	2,233.1	14,477.5	11,768.6
ACIS	5.0x	5.7x	822.3	459.7	4,109.9	2,625.1
Mining	4.3x	5.0x	977.0	946.5	4,159.5	4,713.7
Other	6.0x	6.1x	(209.7)	(196.6)	(1,253.0)	(1,198.1)
Implied SOTP value			**5,519.0**	**5,004.5**	**33,660.3**	**29,127.9**
Total interest bearing debt						12,483.0
Pension obligations						4,844.0
Accrued interest						976.0
Non-controlling interest						2,022.0
Equity method investments						(4,750)
Excess cash						(3,299.2)
Implied Equity Value						**16,852.1**
NOSH						1,020.0
Implied Share Price						**16.5**

Cost of capital

As MT is exposed to a changing capital structure from 2020 to 2021, we derived two different WACCs, one reflecting the financial profile from 2020 and another one reflecting a target Net Debt of $8.5bn. until perpetuity.

In that context, we think MT is exposed to a weighted average cost of capital of 10.47% in 2020 and 10.49% thereafter.[24]

The WACC comprises cost of Equity of 14.1% and after tax cost of Debt of 2.9%. The main drivers of the cost of capital are the market risk premium of 7.0%, the cash-adjusted levered Equity beta of 1.73 and the target Net Debt level of $8.5bn. Based on a sensitivity analysis with respect to the market risk premium and the levered beta, we estimate a potential upside to the WACC of 4.0 pp. and a potential downside of 2.9 pp.

A.25

Market Risk Premium			Levered Beta: Non cash-adjusted *1.58*	Levered Beta: Cash-adjusted *1.73*	Levered Beta: Historical *2.57*
Best practice	*5.00%*		7.6%	8.1%	11.0%
Implied	*6.31%*		**9.0%**	**9.7%**	**13.3%**
Historical	*7.00%*		9.8%	**10.5%**	14.5%

[24] Please note that the subsequent analysis refers to the 2021-Perpetuity WACC.

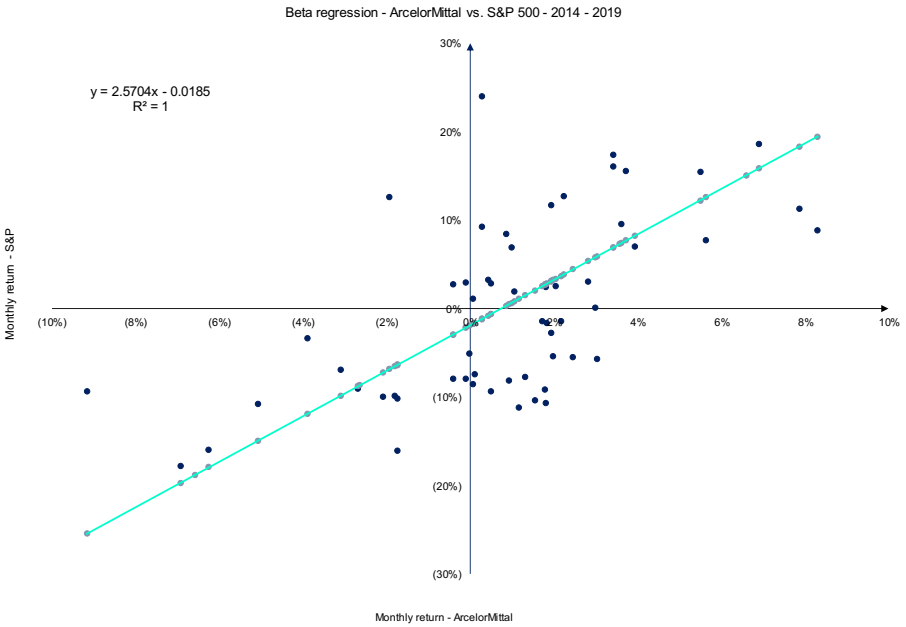
Cost of Equity

In estimating the cost of Equity, we follow industry best practices employing the Capital Asset Pricing Model (CAPM).

We approximate the risk free return by the Yield to Maturity (YTM) of a 10-year U.S. Government bond, in order to match the cash flow currency. We did not choose to utilize a longer-term bond to ensure the liquidity of the asset.

We employ two different approaches in estimating MT's levered beta. First, we re-lever the average unlevered beta of MT's peers with the target D/E ratio of 0.47. In a second step, we adjust for cash and short-term investments, as this position is very large for MT but has a beta of zero and would therefore bias the result downwards. We triangulate this approach with the regression of past MT returns against S&P 500 returns. Doing so we utilize a time period of 5 years (60 months) in order to achieve an appropriate noise reduction while maintaining the current risk profile of the Company. For the final WACC determination however, we use the more forward-looking cash-adjusted beta of 1.73 based on competitors, for two main reasons. Firstly, as the analysis is based on 24 competitors, this method proves to be more robust. Secondly, the regression based on past returns is biased by historically high levels of Debt, which MT aims to reduce in the forthcoming years. We therefore chose to employ a more forward-looking approach, applying a target capital structure to the competitors unlevered beta.

A.26



We use three different approaches in determining the market risk premium (MRP). The first one is based on historical data and models the MRP as the

average monthly excess return of the S&P 500 over the YTM of 1-Month Treasury Bills within a time frame of 39 years. As we employ U.S. data in our analysis, we adjust our result of 7.8% downwards by 0.8% in order to account for the survivorship bias, the phenomenon of the historically above-average performance of the U.S. Equity market.[25] Due to this adjustment and a large time horizon covered, we employ this method for the final WACC derivation.

We also utilize a more forward looking approach by reverse-engineering the cost of Equity required to bring estimated future cash flows for the U.S. Equity market to the current level of the S&P 500. The historical dividend yield (1998 – 2019) sits at 3.3% while the buyback yield (1998-2019) was 1.9%.[26] Hence 5.2% of the current S&P 500 value are paid out in cash, which is projected to grow with 5.0% over 5 years and then 1.8% perpetually.[27] A required rate of return of 8.2% (hence MRP of 6.3%) will match these cash flows to the current index value. As estimating the MRP is a challenging task we finally triangulate these values with industry best practice values between 4.5% and 5.5%.[28]

Cost of Debt

MT issued an USD bond with a face value of $1.25bn. in 2019. We use the respective yield to maturity of 3.9% as the cost of Debt, and triangulated this value by estimating a default spread of 2.0% based on MT's interest coverage ratio of 2.54x.[29] The resulting cost of Debt lie within 0.01 pp. of the initial one. The prevailing statutory tax rate in Luxembourg of 26.01% is employed to account for tax advantages of Debt.

A.27

WACC Calculation	
Cost of Equity	**14.05%**
Risk-free Rate	1.92%
Beta	1.73
Market Risk Premium	7.00%
Cost of Debt	**2.91%**
Cost of Debt (Pre-Tax)	3.93%
Tax Rate	26.01%
Market Cap as % of Total Value	**68%**
Target Net Debt as % of Total Value	**32%**
WACC	**10.49%**

Capital structure

We approximate the current market value of MT's Equity by the Company's market cap of $18.0bn. as of December 2019.

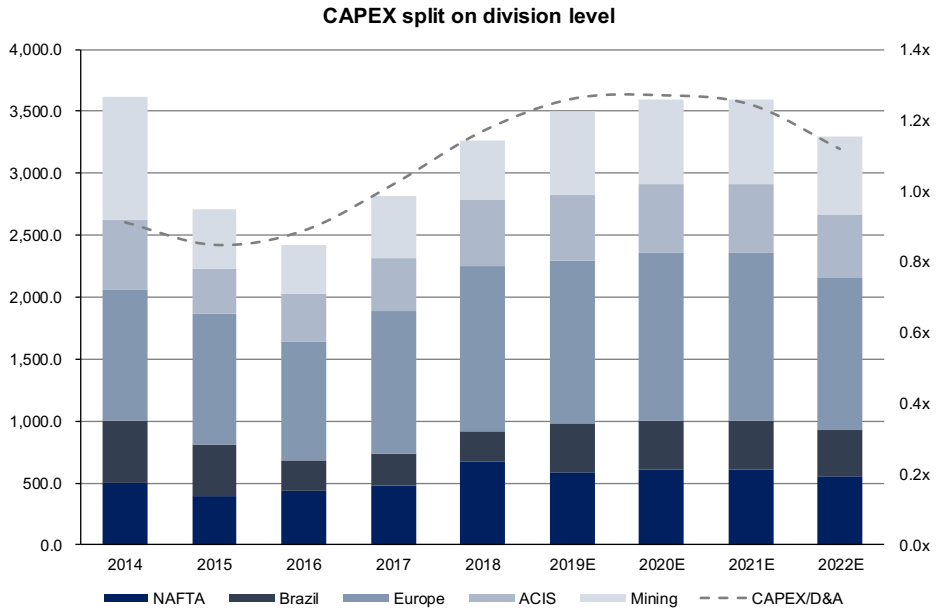
The market value of Debt was approximated by the Net Debt estimation according to our valuation model of $8.5bn. This contributes to a Net Debt to Equity ratio of 0.47, which we assume will prevail until perpetuity as no Equity issuances or share buybacks are planned by MT's management.

[25] Dimson, E., Marsh, P. and Staunton, M. (2006). The Worldwide Equity Premium: A Smaller Puzzle. *SSRN Electronic Journal.*
[26] Yardeni, E., Abbott, J. and Quintana, M. (2019). Corporate Finance Briefing: S&P 500 Buybacks and Dividends- *Yardeni Research Inc.*
[27] Perpetual growth rate modelled as the average projected U.S. GDP growth between 2021 – 2060; 5% growth based on Yardeni Research Inc. (Footnote 27).
[28] Koller, T., Goedhart, M. and Wessels, D. (2015). Measuring and Managing the value of companies. *Hoboken (N.J.):* Wiley & Sons.
[29] Moodys.com.

Capital Expenditures

In Q3 2019 MT announced to revise its 2019 Capex spending by $300m. down to $3,500m., but no spillover effects into 2020 are expected. This value is still higher relative to past years as Capex was being allocated not just to the failed Ilva Acquisition but also to significant investments in Mexico ($1bn., commenced 4Q17, completed 2020) and Brazil (among others). The new hot strip mill (HSM) in Mexico will enhance product mix, modernize asset base and aims to take share from imports, rather than rely purely on a growing market to absorb material. Management therefore projects an IRR larger 15% for the project, supporting our hypothesis of a recovering NAFTA segment in 2022. Moreover, Management intends to expand Liberia mine from 5 to 15mt. in 2020. The final decision has yet to me made, however we evaluate this as an attractive investment as it increases the degree of integration and hence further hedges MT's risk exposure to iron ore- and coking coal price volatilities. Hence, we think the project will be undertaken, resulting in higher cash needs for Capex at $3,600m. in 2020 and 2021. As eventually the discontinuation of the Ilva agreement will free up some cash needs (e.g. no lease payment), Capex will be declining in 2022 towards $3,300m. Expected spending do also consider smaller projects in regards to modernization of asset base as well as growth in scrap production to hit environmental targets, which we will not deep-dive on.

A.28



Terminal Value (TV)

We think that MT will enter its steady state in 2041 and computed a Terminal Value of $5.5bn. (20.3% of Core EV). We utilized the key value driver formula

incorporating a long-term growth rate of 2.3%, a RONIC of 10.6% and a WACC of 10.5%.

Terminal value entrance

We assume that MT will reach its steady state in 2041 as the implied growth rate by RONIC and Reinvestment rate sits constant an 2.3% from there on.

Not only do we assume that the industry and MT itself suffers from significant disruptions in demand and realized prices between 2019-2022, but we also anticipate that the steel industry will structurally change in the upcoming years mainly due to socioeconomic and environmental change. We therefore think a rather long detailed forecasting period before entering the steady state makes sense in order to cope with these structural changes.

ROIC & RONIC Development

We think the return profile of MT will stabilize in 2041 at a RONIC of 10.6% and a ROIC of 7.2%. Another reason for the assumed late TV entrance is the investment profile of MT. Between the years 2019 and 2024 the return on new investments behaves highly volatile. Firstly, the failed Ilva acquisitions for which Capex commitments were already made results in a negative RONIC in 2019. This also contributes to the fact that the long-term ROIC sits below RONIC. Moreover, MT announced to shift its investment focus to high return projects following weak demand in Europe, resulting in a RONIC of 52.9% in 2021 and even 75.9% in 2022. We think that neither a negative RONIC nor a RONIC substantially larger than WACC will sustain in the long-term. This contributes to our assumption of a late TV-entrance in 2041, as the investment profile remains stable beyond that date.

Long-term growth

In estimating the TV, we utilized the growth rate implied by the steady state RONIC (10.6%) and Reinvestment rate (22.0%), corresponding to 2.3%. We triangulate that value by computing the Sales weighted average GDP CAGR from 2041-2060 of 1.9%. The implied growth rate based on ROIC corresponds to 1.6%, however we do not think that this value is representative, as ROIC is biased by past negative-return projects.

In our set-up, the share price is not sensitive to long-term growth for two reasons. Firstly, as MT is entering a steady state rather late, the TV only contributes to

21% of core EV. Secondly, the three methods for determining long-term growth mentioned above yield values within a small range between 1.6% and 2.3%. We therefore do not deem a sensitivity analysis with respect to TV-growth to be relevant.

Comparables

A.30

	Market Cap	EV/Sales			EV/EBITDA			EV/EBIT		
CapIQ Estimates as of 10/12/2019	$m	2018	2019	2020E	2018	2019	2020E	2018	2019	2020E
AK Steel	1.050,6	0,5x	0,6x	0,6x	5,2x	7,8x	9,2x	8,7x	13,9x	16,6x
Nucor	17.510,7	0,8x	0,9x	1,0x	5,0x	6,1x	8,2x	6,2x	7,8x	11,8x
Steel Dynamics	7.555,9	0,7x	0,9x	0,9x	4,3x	6,7x	7,4x	5,1x	8,9x	10,2x
US Steel	2.346,5	0,3x	0,4x	0,4x	2,6x	6,1x	6,6x	4,0x	28,2x	33,6x
Average NAFTA	**7.115,9**	**0,6x**	**0,7x**	**0,7x**	**4,3x**	**6,7x**	**7,8x**	**6,0x**	**14,7x**	**18,1x**
Salzgitter	1.143,5	0,1x	0,2x	0,2x	1,5x	4,0x	3,0x	2,8x	14,5x	7,9x
SSAB	3.373,1	0,6x	0,6x	0,6x	5,2x	6,1x	6,1x	9,5x	14,2x	12,6x
Thyssenkrupp	7.909,2	0,3x	0,3x	0,3x	6,0x	9,6x	5,1x	14,4x	N/M	12,4x
Voestalpine	4.907,7	0,6x	0,7x	0,7x	5,0x	6,8x	6,8x	10,2x	17,8x	19,4x
Average Europe	**4.333,4**	**0,4x**	**0,4x**	**0,4x**	**4,4x**	**6,6x**	**5,3x**	**9,2x**	**15,5x**	**13,1x**
CSN	4.386,7	2,0x	1,8x	1,9x	8,4x	6,2x	6,6x	10,9x	8,2x	8,7x
Gerdau	6.669,3	0,9x	1,0x	0,9x	6,4x	7,0x	6,3x	8,8x	11,1x	9,5x
Usiminas	2.710,8	1,3x	1,2x	1,1x	6,2x	8,9x	7,2x	8,9x	18,4x	12,7x
Average Brazil	**4.588,9**	**1,4x**	**1,3x**	**1,3x**	**7,0x**	**7,4x**	**6,7x**	**9,5x**	**12,5x**	**10,3x**
Magnitogorsk	6.888,8	0,8x	0,9x	1,0x	2,8x	3,6x	3,8x	3,7x	5,0x	5,4x
Nippon Steel	14.791,6	0,7x	0,7x	0,7x	5,8x	6,2x	8,6x	12,6x	17,0x	44,0x
Novolipetsk	12.525,8	1,1x	1,4x	1,4x	4,0x	5,5x	5,7x	4,8x	7,0x	7,3x
Posco	15.684,4	0,5x	0,5x	0,5x	3,6x	4,2x	4,2x	5,6x	7,5x	7,5x
Severstal	11.275,4	1,5x	1,5x	1,6x	4,0x	4,5x	4,9x	4,6x	5,3x	6,0x
Tata Steel	6.491,6	0,9x	1,0x	1,0x	4,7x	6,0x	7,1x	6,2x	8,9x	11,8x
Average ACIS	**11.276,3**	**0,9x**	**1,0x**	**1,0x**	**4,2x**	**5,0x**	**5,7x**	**6,3x**	**8,5x**	**13,7x**
Exxaro	2.292,7	1,5x	1,4x	1,1x	3,5x	6,5x	4,8x	4,1x	11,2x	6,8x
New Hope	1.144,9	1,8x	1,5x	1,9x	4,2x	3,8x	5,5x	5,3x	5,0x	7,8x
Whitehaven Coal	1.784,8	1,3x	1,2x	1,6x	2,0x	2,0x	6,0x	3,7x	3,7x	10,1x
Average Coal	**1.740,8**	**1,5x**	**1,4x**	**1,5x**	**3,2x**	**4,1x**	**5,4x**	**4,4x**	**6,6x**	**8,3x**
Cliffs	2.298,4	1,5x	2,0x	2,0x	4,6x	7,4x	8,7x	5,2x	9,0x	10,7x
Ferrexpo	1.110,7	1,1x	0,9x	1,1x	2,9x	2,2x	3,7x	3,3x	2,6x	4,6x
Fortescue	21.552,3	3,4x	2,4x	2,0x	7,6x	4,0x	3,3x	12,8x	5,0x	4,1x
Kumba	8.991,7	2,9x	1,9x	2,1x	6,5x	3,4x	4,2x	8,2x	3,8x	4,9x
Average Iron	**8.488,3**	**2,2x**	**1,8x**	**1,8x**	**5,4x**	**4,3x**	**5,0x**	**7,4x**	**5,1x**	**6,1x**
Weighted Multiple		**0,7x**	**0,7x**	**0,7x**	**4,7x**	**6,1x**	**5,9x**	**7,5x**	**11,3x**	**11,5x**
ArcelorMittal	**18.064,1**	**0,4x**	**0,4x**	**0,4x**	**2,9x**	**5,6x**	**4,9x**	**4,0x**	**16,3x**	**9,5x**

Financials

A.31

Forecasted Balance sheet	2014A	2015A	2016A	2017A	2018A	2019E	2020E	2021E	2022E
Operating cash	1,585.6	1,271.6	1,135.8	1,373.6	1,520.7	1,397.7	1,310.5	1,271.7	1,268.9
Trade accounts receivable and other	3,696.0	2,679.0	2,974.0	3,863.0	4,432.0	3,573.4	3,409.6	3,434.5	3,447.8
Inventories	17,304.0	13,424.0	14,734.0	17,986.0	20,744.0	17,397.5	16,733.9	16,930.9	16,528.7
Prepaid expenses	272.0	203.0	184.5	160.5	208.0	208.9	190.1	180.7	175.2
Property, plant and equipment and biological assets	46,593.0	35,780.0	34,831.0	36,971.0	35,638.0	36,358.2	37,122.3	37,826.8	38,176.3
Goodwill and intangible assets	8,104.0	5,592.0	5,651.0	5,737.0	5,728.0	5,728.0	5,728.0	5,728.0	5,728.0
Other short-term tax related receivables, net	450.0	273.0	213.0	326.0	502.0	350.4	319.9	317.9	333.0
Other long-term tax related receivables, net	290.0	206.0	387.0	385.0	512.0	364.1	361.8	380.1	368.6
Investments in Joint Ventures	1,809.0	1,443.0	1,507.0	1,249.0	1,011.0	1,011.0	1,011.0	1,011.0	1,011.0
TOTAL OPERATING ASSETS	**80,103.6**	**60,871.6**	**61,617.3**	**68,051.1**	**70,295.7**	**66,389.3**	**66,187.0**	**67,081.5**	**67,037.5**
Trade accounts payable and other	11,450.0	10,416.0	11,633.0	13,428.0	13,981.0	12,679.5	12,390.5	12,450.3	11,970.7
Operating Provisions	1,853.0	1,741.0	1,534.0	1,694.0	2,165.0	1,829.7	1,715.5	1,664.7	1,661.1
Accrued payroll and employee related expenses	1,869.0	1,568.0	1,560.0	1,787.0	1,613.0	1,740.6	1,651.1	1,626.5	1,554.6
Unearned revenue and accrued payables	59.0	56.0	39.0	69.0	58.0	57.0	54.4	52.1	53.7
TOTAL OPERATING LIABILITIES	**15,231.0**	**13,781.0**	**14,766.0**	**16,978.0**	**17,817.0**	**16,306.8**	**15,811.6**	**15,793.7**	**15,240.1**
Core Invested Capital	**64,872.6**	**47,090.6**	**46,851.3**	**51,073.1**	**52,478.7**	**50,082.5**	**50,375.4**	**51,287.7**	**51,797.4**
Restricted cash	123.0	100.0	114.0	212.0	182.0	148.3	146.6	150.7	154.9
Non-Operating Receivables	726.0	369.0	676.5	935.5	2,401.0	2,401.0	2,401.0	2,401.0	2,401.0
Derivative Financial Instruments, net	62.0	85.0	206.0	757.0	1,036.0	1,036.0	1,036.0	1,036.0	1,036.0
Assets held for sale, net	257.0	42.0	164.0	129.0	1,290.0	1,290.0	1,290.0	0.0	0.0
Equity Method Investments	5,226.0	4,160.0	3,716.0	5,306.0	4,750.0	4,750.0	4,750.0	4,750.0	4,750.0
Deferred Tax Assets, net	4,958.0	4,129.0	3,308.0	4,371.0	5,913.0	5,913.0	5,913.0	5,913.0	5,913.0
Other Non-Operating Assets	1,363.0	818.0	488.0	457.0	567.0	567.0	567.0	567.0	567.0
TOTAL NON-OPERATING ASSETS	**12,715.0**	**9,703.0**	**8,672.5**	**12,167.5**	**16,139.0**	**16,105.3**	**16,103.6**	**14,817.7**	**14,821.9**
Non-operating Payables	915.0	852.0	833.0	943.0	1,332.0	1,332.0	1,332.0	1,332.0	1,332.0
Deferred employee benefit, funded	3,689.0	3,034.0	2,394.0	2,218.0	2,138.0	2,766.1	2,503.4	2,347.5	2,210.8
Provisions for Litigation	758.0	463.0	413.0	328.0	369.0	471.7	405.4	379.4	362.0
Other Non-Operating Liabilities	2,212.0	611.0	566.0	963.0	3,019.0	3,019.0	3,019.0	3,019.0	3,019.0
TOTAL NON-OPERATING LIABILITIES	**7,574.0**	**4,960.0**	**4,206.0**	**4,452.0**	**6,858.0**	**7,588.8**	**7,259.8**	**7,077.9**	**6,923.9**
Non-core Invested Capital	**5,141.0**	**4,743.0**	**4,466.5**	**7,715.5**	**9,281.0**	**8,516.5**	**8,843.8**	**7,739.7**	**7,898.0**
Debt and Debt equivalents									
Short-term debt and current portion of long-term debt	2,522.0	2,308.0	1,885.0	2,785.0	3,167.0	3,167.0	3,167.0	1,877.0	1,877.0
Accrued interest and other payables	979.0	1,026.0	781.0	794.0	976.0	976.0	976.0	976.0	976.0
Long-term debt, net of current portion	17,275.0	17,478.0	11,789.0	10,143.0	9,316.0	9,316.0	9,316.0	9,316.0	9,316.0
Unfunded portion of pension plan benefits	1,603.0	1,383.0	1,324.0	1,483.0	1,335.0	1,335.0	1,335.0	1,335.0	1,335.0
Unfunded portion of other post employment benefits	4,782.0	4,799.0	4,579.0	3,929.0	3,509.0	3,509.0	3,509.0	3,509.0	3,509.0
Non-controlling interests	3,074.0	2,298.0	2,190.0	2,066.0	2,022.0	2,022.0	2,022.0	2,022.0	2,022.0
DEBT AND DEBT EQUIVALENTS (excl. Excess cash and newly issued Debt)	**30,235.0**	**29,292.0**	**22,548.0**	**21,200.0**	**20,325.0**	**20,325.0**	**20,325.0**	**19,035.0**	**19,035.0**
Excess Cash	(2,307.4)	(2,730.4)	(1,365.2)	(1,200.4)	(651.3)	(3,811.9)	(3,299.2)	(2,729.9)	(2,407.4)
Newly issued Debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL DEBT AND DEBT EQUIVALENTS	27,927.6	26,561.6	21,182.8	19,999.6	19,673.7	16,513.1	17,025.81	16,305.1	16,627.6
Equity and Equity equivalents									
Common shares	10,011.0	10,011.0	401.0	401.0	364.0	364.0	364.0	364.0	364.0
Treasury shares	(399.0)	(377.0)	(371.0)	(362.0)	(569.0)	(569.0)	(569.0)	(569.0)	(569.0)
Additional paid-in capital	20,258.0	20,294.0	34,826.0	34,848.0	34,894.0	34,894.0	34,894.0	34,894.0	34,894.0
Retained earnings	22,182.0	13,902.0	16,049.0	20,635.0	25,611.0	25,611.0	25,718.4	26,247.4	26,592.8
Mandatory convertible notes	1,838.0	1,800.0	-	-	-	-	-	-	-
Reserves	(11,804.0)	(20,358.0)	(20,770.0)	(16,733.0)	(18,214.0)	(18,214.0)	(18,214.0)	(18,214.0)	(18,214.0)
TOTAL EQUITY AND EQUITY EQUIVALENTS (attributable to the parent)	**42,086.0**	**25,272.0**	**30,135.0**	**38,789.0**	**42,086.0**	**42,086.0**	**42,193.4**	**42,722.4**	**43,067.8**

Cash flow map

A.32

Working capital forecast	2014A	2015A	2016A	2017A	2018A	2019E	2020E	2021E	2022E
a) Operating Working Capital schedule									
Operating Cash	1,585.6	1,271.6	1,135.8	1,373.6	1,520.7	1,397.7	1,310.5	1,271.7	1,268.9
Trade accounts receivable and other	3,696.0	2,679.0	2,974.0	3,863.0	4,432.0	3,573.4	3,409.6	3,434.5	3,447.8
Inventories	17,304.0	13,424.0	14,734.0	17,986.0	20,744.0	17,397.5	16,733.9	16,930.9	16,528.7
Prepaid expenses	272.0	203.0	184.5	160.5	208.0	208.9	190.1	180.7	175.2
Other short-term tax related receivables, net	450.0	273.0	213.0	326.0	502.0	350.4	319.9	317.9	333.0
Trade accounts payable and other	11,450.0	10,416.0	11,633.0	13,428.0	13,981.0	12,679.5	12,390.5	12,450.3	11,970.7
Operating Provisions	1,853.0	1,741.0	1,534.0	1,694.0	2,165.0	1,829.7	1,715.5	1,664.7	1,661.1
Accrued payroll and employee related expenses	1,869.0	1,568.0	1,560.0	1,787.0	1,613.0	1,740.6	1,651.1	1,626.5	1,554.6
Unearned revenue and accrued payables	59.0	56.0	39.0	69.0	58.0	57.0	54.4	52.1	53.7
Total operating working capital	8,076.6	4,069.6	4,475.3	6,731.1	9,589.7	6,621.2	6,152.4	6,341.9	6,513.5
Changes in operating working capital	-	*(4,007.1)*	*405.8*	*2,255.8*	*2,858.6*	*(2,968.5)*	*(468.8)*	*189.6*	*171.6*

Cash flow map	2014A	2015A	2016A	2017A	2018A	2019E	2020E	2021E	2022E
NOPLAT		(6,044.8)	2,800.2	4,890.9	6,482.8	1,730.8	1,604.5	1,759.5	2,451.8
Depreciation and Amortization		(3,192.0)	(2,721.0)	(2,768.0)	(2,799.0)	(2,779.8)	(2,835.9)	(2,895.5)	(2,950.5)
Gross cash flow		**(2,852.8)**	**5,521.2**	**7,658.9**	**9,281.8**	**4,510.6**	**4,440.4**	**4,655.0**	**5,402.3**
- % change, YoY		-	*-293.5%*	*38.7%*	*21.2%*	*-51.4%*	*-1.6%*	*4.8%*	*16.1%*
Changes in operating working capital		4,007.1	(405.8)	(2,255.8)	(2,858.6)	2,968.5	468.8	(189.6)	(171.6)
Net Capex		7,621.0	(1,772.0)	(4,908.0)	(1,466.0)	(3,500.0)	(3,600.0)	(3,600.0)	(3,300.0)
Change in other long-term assets		84.0	(181.0)	2.0	(127.0)	147.9	2.4	(18.3)	11.5
Change of Investments in Joint Ventures		366.0	(64.0)	258.0	238.0	0.0	0.0	0.0	0.0
Investments in Goodwill and intangible assets		2,512.0	(59.0)	(86.0)	9.0	0.0	0.0	0.0	0.0
Investing cash flow		**14,590.1**	**(2,481.8)**	**(6,989.8)**	**(4,204.6)**	**(383.6)**	**(3,128.8)**	**(3,807.9)**	**(3,460.1)**
Operating FCF		**11,737.3**	**3,039.4**	**669.2**	**5,077.2**	**4,126.9**	**1,311.6**	**847.2**	**1,942.2**
- % change, YoY		-	*-74.1%*	*-78.0%*	*658.7%*	*-18.7%*	*-68.2%*	*-35.4%*	*129.3%*
Non-operating result		(9,239.3)	296.0	4,414.5	(1,092.6)	159.7	242.8	376.2	299.7
Changes in non-operating invested capital		398.0	276.5	(3,249.0)	(1,565.5)	764.5	(327.2)	1,104.0	(158.3)
Non-operating FCF		**(8,841.3)**	**572.5**	**1,165.5**	**(2,658.1)**	**924.2**	**(84.4)**	**1,480.2**	**141.4**
- % change, YoY		-	*-106.5%*	*103.6%*	*-328.1%*	*-134.8%*	*-109.1%*	*-1852.8%*	*-90.4%*
Financial result		(2,022.9)	(1,521.2)	(647.4)	(1,635.2)	(1,312.2)	(1,259.1)	(1,115.5)	(1,089.6)
Changes in Debt and Debt equivalents		(1,366.1)	(5,378.7)	(1,183.2)	(325.9)	(3,160.6)	512.7	(720.7)	322.5
Changes in Equity and Equity equivalents		(16,814.0)	4,863.0	8,654.0	3,297.0	0.0	107.4	529.0	345.5
Total comprehensive income		(17,307.0)	1,575.0	8,658.0	3,755.0	578.3	588.2	1,020.2	1,662.0
Financing cash flow		**(2,896.0)**	**(3,612.0)**	**(1,834.7)**	**(2,419.1)**	**(5,051.1)**	**(1,227.2)**	**(2,327.4)**	**(2,083.6)**
- % change, YoY		-	*24.7%*	*-49.2%*	*31.9%*	*108.8%*	*-75.7%*	*89.7%*	*-10.5%*

A.33

Forecasted Income Statement	2014A	2015A	2016A	2017A	2018A	2019E	2020E	2021E	2022E
Sales	**79.282,0**	**63.578,0**	**56.791,0**	**68.679,0**	**76.033,0**	**69.886,1**	**65.525,1**	**63.584,4**	**63.444,7**
Cost of sales	(69.349,0)	(62.004,0)	(47.707,0)	(58.108,0)	(64.226,0)	(61.808,3)	(58.130,9)	(56.036,7)	(54.949,5)
Gross Margin	**9.933,0**	**1.574,0**	**9.084,0**	**10.571,0**	**11.807,0**	**8.077,9**	**7.394,2**	**7.547,7**	**8.495,1**
Selling, general and administrative expenses	(2.960,0)	(2.543,0)	(2.202,0)	(2.369,0)	(2.469,0)	(2.558,9)	(2.389,7)	(2.274,1)	(2.230,9)
EBITDA	**6.973,0**	**(969,0)**	**6.882,0**	**8.202,0**	**9.338,0**	**5.519,0**	**5.004,5**	**5.273,6**	**6.264,2**
Depreciation and Amortization	(3.939,0)	(3.192,0)	(2.721,0)	(2.768,0)	(2.799,0)	(2.779,8)	(2.835,9)	(2.895,5)	(2.950,5)
Exceptional items	(243,0)	(6.180,0)	627,0	(206,0)	(927,0)	(400,0)	0,0	0,0	0,0
EBIT	**2.791,0**	**(10.341,0)**	**4.788,0**	**5.228,0**	**5.612,0**	**2.339,2**	**2.168,5**	**2.378,0**	**3.313,7**
Taxes	(1.492,5)	(1.883,8)	(1.360,8)	(543,1)	(56,2)	(608,4)	(564,0)	(618,5)	(861,9)
NOPLAT	**1.298,5**	**(12.224,8)**	**3.427,2**	**4.684,9**	**5.555,8**	**1.730,8**	**1.604,5**	**1.759,5**	**2.451,8**
Non-core result before taxes	(172,0)	(502,0)	615,0	448,0	652,0	215,8	328,1	508,4	405,1
Non-core taxes	50,3	146,7	(160,0)	(116,5)	(169,6)	(56,1)	(85,3)	(132,2)	(105,4)
Other comprehensive income	(5.687,0)	(8.884,0)	(159,0)	4.083,0	(1.575,0	0,0	0,0	0,0	0,0
Non-core result	**(5.808,7)**	**(9.239,3)**	**296,0**	**4.414,5**	**(1.092,6**	**159,7**	**242,8**	**376,2**	**299,7**
Financing costs - net	(3.382,0)	(2.858,0)	(2.056,0)	(875,0)	(2.210,0	(1.773,5)	(1.701,7)	(1.507,6)	(1.472,6
Tax shield	988,2	835,1	534,8	227,6	574,8	461,3	442,6	392,1	383,0
Financial result	**(2.393,8)**	**(2.022,9)**	**(1.521,2)**	**(647,4)**	**(1.635,2**	**(1.312,2)**	**(1.259,1)**	**(1.115,5)**	**(1.089,6**
Total comprehensive income	**(6.904,0)**	**(23.487,0)**	**2.202,0**	**8.452,0**	**2.828,0**	**578,3**	**588,2**	**1.020,2**	**1.662,0**

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Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
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Cyclical headwind putting pressure on ArcelorMittal's outlook

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A Project carried out on the Master in Finance Program, under the supervision of:

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Abstract of "Cyclical headwind putting pressure on ArcelorMittal's outlook"

This report is focusing on MT's comparable companies and their selection, which have been used to build up a target price estimate via a hybrid comparable valuation technique. Besides that, another section will be explaining the differences in multiples and gives a closer look at Nippon Steel, one of MT's major competitors.

Keywords: ArcelorMittal, steel industry, metals and mining, multiple valuation

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Comparable companies

Given MT's cyclical business, our target price is 50:50 based on our DCF and 12-month forward EV/EBITDA multiple valuation. Further, to capture MT's multinational operations, as well as the USP of being an integrated steel producer, we included an equal-weighted sum-of-the-parts valuation (25%) in our target price estimation. The other part of our multiple valuation (25%) reflects MT's long-term EV/EBITDA forward median multiple of 5.6x. With a focus on MT's divisional structure, we defined the company's peer group by looking on several measures, which are described below.

Identifying a comparable universe of competitors

To account for MT's global footprint, we divided our peer group into regions and added the mining business. To narrow down the wide competition within the steel industry, we had a strong focus on the financial profile (especially on operating metrics as well as debt capacity), product mix, business model and strategy, life cycle stage as well as the size of the companies. Evaluating the relevant steel and mining players lead to different margin profiles within their respective region and business. While the average 2020 EBITDA-margin in ACIS is at 20.8%, sluggish European players do only post a 6.5% EBITDA-margin. This gap is showing structural cost differences within the global steel industry and MT's constant margin pressure. European steelmakers are facing some challenges, high costs and an on-going weak automotive industry are pressurizing growth, resulting in weaker margins. Thyssenkrupp is currently about to sell its elevator business, in order to get some financial headroom to restructure their tarnished steel business.[1]

Noteworthy is also the strong growth of the plain Coal and Iron ore players compared to the steel producers. Strong growth comes inter alia from the Brazilian dam failure, good weather conditions and the demand from China as they are not cutting down their steel output.

[1] Thomson Reuters. (2019). *Thyssenkrupp proceeds with elevator sale after CEO switch: sources*. [online] Available at: https://www.reuters.com/article/us-thyssenkrupp-m-a/thyssenkrupp-proceeds-with-elevator-sale-after-ceo-switch-sources-idUSKBN1WB1P.

Company Name	LTM EBITDA Margin	LTM EBIT Margin	LTM Total Revenues 1 Yr Growth	LTM EBITDA 1 Yr Growth	LTM EBIT 1 Yr Growth	LTM Total Debt/Capital	LTM Total Debt/EBITDA	NTM LT EPS Growth Rate	ND/Market Cap
AK Steel	9.0%	5.5%	(0.7%)	2.1%	9.0%	83.0%	380.0%	(26.7%)	210.5%
Nucor	14.0%	10.9%	(0.5%)	(7.8%)	(6.0%)	29.1%	130.0%	6.7%	14.4%
Steel Dynamics	13.5%	10.6%	(2.1%)	(20.0%)	(24.6%)	38.3%	170.0%	(7.1%)	17.2%
US Steel	6.3%	2.3%	1.4%	(35.7%)	(62.5%)	40.1%	320.0%	6.5%	99.6%
Average NAFTA	**10.7%**	**7.3%**	**(0.5%)**	**(15.3%)**	**(21.0%)**	**47.6%**	**250.0%**	**(5.2%)**	**29.4%**
Salzgitter	3.6%	0.6%	(1.4%)	(55.7%)	(86.1%)	27.3%	350.0%	(36.2%)	59.7%
SSAB	9.8%	4.5%	8.3%	(5.6%)	(18.9%)	19.7%	210.0%	(6.9%)	36.3%
Thyssenkrupp	2.6%	0.0%	1.1%	(37.6%)	(99.9%)	77.0%	670.0%	87.4%	44.2%
Voestalpine	9.9%	3.7%	1.2%	(28.0%)	(54.8%)	46.8%	400.0%	22.5%	102.1%
Average Europe	**6.5%**	**2.2%**	**2.3%**	**(31.7%)**	**(64.9%)**	**42.7%**	**407.5%**	**16.7%**	**60.1%**
CSN	21.7%	16.4%	13.9%	17.1%	22.9%	74.8%	550.0%	(25.3%)	156.0%
Gerdau	13.0%	8.5%	(9.0%)	(10.4%)	(17.3%)	36.9%	300.0%	3.4%	46.8%
Usiminas	16.0%	10.3%	8.3%	4.4%	13.0%	30.0%	290.0%	12.9%	44.9%
Average Brazil	**16.9%**	**11.7%**	**4.4%**	**3.7%**	**6.2%**	**47.3%**	**380.0%**	**(3.0%)**	**81.2%**
Magnitogorsk	25.3%	18.7%	(4.8%)	(19.9%)	(23.4%)	13.6%	40.0%	(7.8%)	(1.1%)
Nippon Steel	10.0%	3.2%	8.5%	21.0%	19.6%	41.9%	410.0%	9.8%	136.9%
Novolipetsk	26.0%	21.1%	(5.0%)	(17.2%)	(18.8%)	31.5%	90.0%	(7.2%)	13.8%
Posco	12.2%	7.0%	1.6%	(8.3%)	(15.4%)	29.9%	260.0%	-	54.8%
Severstal	35.1%	30.1%	(3.1%)	(3.5%)	(5.7%)	44.1%	90.0%	(8.4%)	11.5%
Tata Steel	16.0%	10.7%	(0.3%)	(14.5%)	(26.9%)	57.7%	420.0%	11.5%	211.2%
Average ACIS	**20.8%**	**15.1%**	**(0.5%)**	**(7.1%)**	**(11.8%)**	**36.4%**	**218.3%**	**(0.4%)**	**67.3%**
Exxaro	25.2%	18.2%	3.5%	137.1%	278.7%	10.0%	80.0%	6.1%	2.3%
New Hope	39.6%	30.4%	21.1%	10.4%	5.4%	15.5%	70.0%	(8.6%)	18.2%
Whitehaven Coal	58.1%	31.7%	10.1%	0.7%	(0.5%)	10.6%	30.0%	(12.4%)	11.5%
Average Coal	**41.0%**	**26.8%**	**11.6%**	**49.4%**	**94.5%**	**12.0%**	**60.0%**	**(5.0%)**	**10.7%**
Cliffs	27.8%	24.0%	0.2%	(19.9%)	(21.7%)	85.4%	350.0%	4.0%	74.4%
Ferrexpo	43.7%	38.8%	18.1%	30.4%	29.4%	25.5%	60.0%	-	25.4%
Fortescue	59.3%	47.3%	44.7%	89.4%	155.7%	27.2%	70.0%	(19.3%)	9.6%
Kumba	55.4%	48.0%	37.0%	92.8%	95.4%	0.8%	0.0%	(12.1%)	(14.4%)
Average Iron	**46.6%**	**39.5%**	**25.0%**	**48.2%**	**64.7%**	**34.7%**	**120.0%**	**(9.1%)**	**8.2%**
ArcelorMittal	**7.8%**	**3.7%**	**(2.6%)**	**(43.3%)**	**(62.3%)**	**25.3%**	**250.0%**	**(17.9%)**	**50.8%**

Summary Statistics	LTM EBITDA Margin	LTM EBIT Margin	LTM Total Revenues 1 Yr Growth	LTM EBITDA 1 Yr Growth	LTM EBIT 1 Yr Growth	LTM Total Debt/Capital	LTM Total Debt/EBITDA	NTM LT EPS Growth Rate	ND/Market Cap
High	59.3%	48.0%	44.7%	137.1%	278.7%	85.4%	670.0%	87.4%	211.2%
Low	2.6%	0.0%	(9.0%)	(37.6%)	(99.9%)	0.8%	0.0%	(19.3%)	(14.4%)
Mean	24.2%	17.5%	6.5%	5.6%	8.4%	37.6%	244.2%	0.4%	50.2%
Median	16.9%	11.7%	1.6%	(7.1%)	(15.4%)	36.4%	250.0%	(5.0%)	50.8%

Source: Valuation model, CapitalIQ

Selection of an appropriate multiple for the target price calculation

First, we looked at the most common multiples like EV/Sales, EV/EBITDA, EV/EBIT as well as P/E, but ended up with the EBITDA multiple for several reasons. EBITDA is a well-known proxy for operating cash flow and reflects the price to cash flow relation adequately. Given comparable competitors within different regions and hence changing depreciation policies, a D&A unaffected multiple is most appropriate. The EV/EBITDA multiple is mostly affected by a firm's level of capital intensity and therefore, all things being equal, higher capital intensity lowers the respective multiple. Breaking down the capital intensity of the industry within our benchmark analysis, showed that this was in-line with MT's capital spendings. Besides the arguments for using the EBITDA multiple as part of our target price recommendation, we also considered the drawbacks of cash flow proximity, capex, and dependency of positive figures. In the interest of clean multiple valuation, we used forward looking multiples and EBITDA estimates to eliminate exceptional items i.e. non-recurring and non-core items.

In general, four different pricing base multiples can be used: **(1) historical, (2) current, (3) forward and (4) partial-forward**.[2] In our valuation we considered, as mentioned earlier, the historical median EV/EBITDA multiple as well as the forward-looking EV/EBITDA multiple. The historical-priced multiples are, as the name already states, a historical range of enterprise values and historical earnings. Mostly, those kinds of multiples are used to establish a profound trading range, as we used in our report. Forward-looking multiples are a comparison of forward enterprise value with forecasted earnings and are taken to investigate and analyze the current value of a company. A forward-looking multiple can be also sometimes seen as a partial multiple-expressed DCF valuation. By having in mind, that the entire steel industry is heavily dependent on global economic development, it is a decent way to value the industry with such multiples. Technically, a forward price is the required price an investor needs to earn in order to make return over the cost of capital, which can be expressed as the following:

$$\textbf{Forward price } t_1 = \textbf{Price } t_0 * (1 + \textbf{Cost of Capital}) - \textbf{Investor Cash Flow } t_1$$ [2]

One of the major concepts behind the usage of forward-looking multiples to value companies, is the assumption of a certain degree of maturity and differences in value are true differences rather than the stage of the lifecycle. All our selected peers are long-active players within the steel industry, hence reflecting all the same lifecycle stages.

By looking at the different EV/EBITDA multiples of our comparable companies, different levels of size can be observed. While the European comps do trade on average at 5.3x 2020E EBITDA, NAFTA players show on average 7.8x of their 2020E EBITDA.

Explanation of different multiples:

For a better understanding of different multiples, they need an analytical framework in the form of a function of (1) **cash generation**, (2) **risk** and (3) **growth**.[3] As a way of conceptualizing the relationship of the named functions, we can use a simple one-stage DCF (FCFF), which can be expressed as the following:

$$EV = \frac{FCFF_n \times (1 + g)}{(WACC - g)}$$

[2] Robinson, G. and Weyns, G. (2017). *Fundamental Equity Analytics - How to...analyse and talk the language of multiples*. Global Research UBS Limited.

Where:

EV: Enterprise Value

$FCFF_n$: Free Cash Flow to Frim

g: Growth

WACC: Weighted average cost of capital

Dividing both sides of the equation by EBITDA, we can express the multiple as the following:[3]

$$\frac{EV}{EBITDA} = \frac{(FCFF_n \times (1 + g))/EBITDA}{(WACC - g)}$$

Cash generation

Ability to translate EBITDA into Cash Flow. Higher cash generation will increase numerator and leading to a larger multiple – in line with the concept of the peer comparison as stronger cash generation implies a higher multiple.

Risk

Risk and return are correlated, and should, therefore, be managed concerning the generation of return. More risk, expressed by a higher WACC, will lower the size of the respective multiple.

Growth

Growth, that generates a return above the WACC, is driving a higher valuation and therefore resulting in a higher multiple. Of course, this is a function of reinvestment in relation to the cost of financing of the respective project.

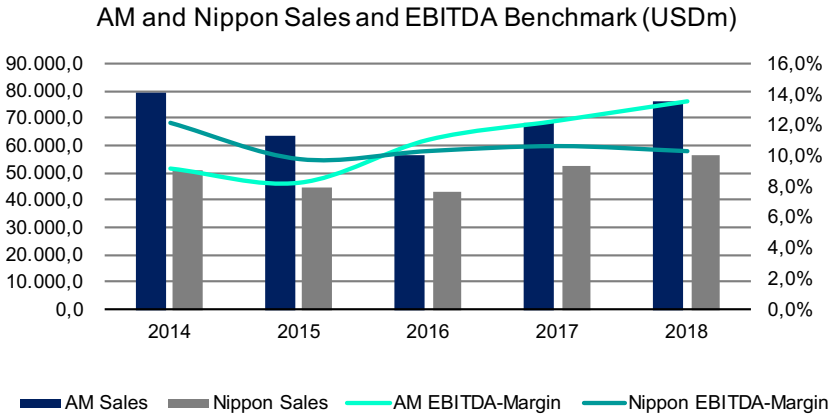
A more detailed view on one of the most important competitor: Nippon Steel

ArcelorMittal is the leading player in the global steel market, generating approx. 6% of the global crude steel market value.[4] One of MT's major competitors is, based on MarketLine[4] and our market understanding, Nippon Steel & Sumitomo Metal Corp. Nippon is listed and headquartered in Tokyo, Japan and is active in various businesses such as steelmaking, engineering, chemicals, new materials, and system solutions. The company serves, like ArcelorMittal, customers within the automotive,

[3] Robinson, G. and Weyns, G. (2017). *Fundamental Equity Analytics - How to...analyse and talk the language of multiples*. Global Research UBS Limited

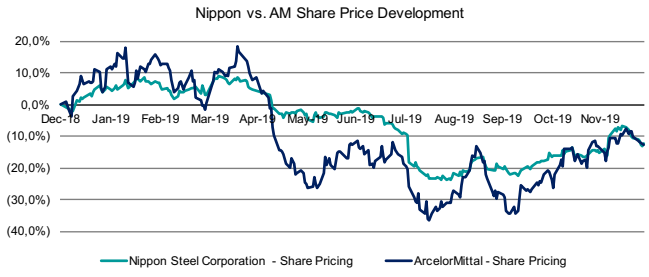
[4] MarketLine Industry Profile Global Steel September 2018. (2018). MarketLine.

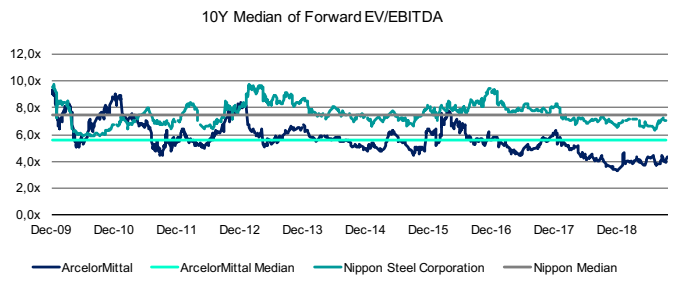
construction, civil engineering, railway sector. Moreover, the Asian player has manufacturing sites across Japan, Middle East, APAC, Europe as well as America, producing 46.8m tons of crude steel in FY18.[4] As steel demand is diminishing, producers are forced to pool resources to sustain pressure from China. For that reason, MT and Nippon signed an agreement to purchase Essar Steel India recently.[5]



Source: CapitalIQ

The MSCI Metals and Mining index gained around 13% during 2019, Nippon and ArcelorMittal lost both around 12% (Beta of Nippon's: 1.32, MT 1.7). This proofs MT's and Nippon's highly cyclical business exposure in a global context. Having a look at the trading stats of the two steelmakers, MT's 10Y EV/EBITDA forward multiple is at 5.6x, at the same time Nippon is trading over the same period at 7.5x. For 2020, the market sentiment is expecting Nippon to reach an EV/EBITDA trading level of 8.6x and therefore significantly higher than MT's expected 4.9x. Following Morningstar, Nippon has Cost of Equity of 11.5% and Pre-Tax Cost of Debt of 4.5%, resulting in a Weighted Average Cost of Capital of 6.7%[6]. Besides that, Nippon is expected to grow at 3.0% in perpetuity. Comparing MT's opportunity cost of approx. 10.5% and a growth rate of c.2.3%, Nippon's higher EV/EBITDA multiple can be explained by the earlier mentioned components of Risk and Growth.





Source: CapitalIQ

[5] Corporate.arcelormittal.com. (2020). *ArcelorMittal and Nippon Steel complete acquisition of Essar Steel*. [online] Available at: https://corporate.arcelormittal.com/news-and-media/press-releases/2019/dec/16-12-2019 [Accessed 2 Jan. 2020].

[6] Foong, K. (2019). *NS's Q2 FY2020 Results Below Expectations; Guidance Lowered Mainly Due to One-Off Disaster Effect*. Morningstar Equity Research.